

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.-2. (Cancelled)

3. (Currently Amended) A method of transmitting data over a decentralised network, the method comprising:

receiving a plurality of data files at a relay device, ~~at least one of~~each of the data files having a respective predetermined expiry time, and at least one of the data files being a compressed data file,

processing the data ~~therein~~in the received plurality of data files by aggregating those of the received data files having a common predetermined expiry time to create a plurality of aggregated compressed data files, and

transmitting the aggregated compressed data files to a plurality of similar relay devices over the decentralised network,

wherein the compression and aggregation technique applied to the data is a Bloom filter process, and

wherein each individual aggregated compressed data file has a predetermined expiry time which is equal to the common predetermined expiry time of the received data files included in that individual aggregated compressed data file, and wherein the aggregated compressed data files are only forwarded if they have not exceeded their predetermined expiry time.

4. (Previously Presented) A method according to claim 3, wherein data files received by a relay device having the same expiry time are aggregated into a single data file for further dissemination.

5. (Previously Presented) A method according to claim 3, wherein the aggregated compressed data files are transmitted using an epidemic dissemination process.

6. (Previously Presented) A method according to claim 3, wherein each relay device stores each data file received, compares subsequently received data files with those already stored, and suspends the aggregating and forwarding process for any duplicate data files identified.

7. (Previously Presented) A method according to claim 3, wherein at least some of the relay devices receive compressed data from associated data generation and compression means.

8.-9. (Canceled)

10. (Currently Amended) Relay device comprising:
a receiver for receiving a plurality of data files, ~~at least one~~each of the data files having a respective predetermined expiry time, and at least one of the data files being a compressed data file,

an aggregation processor for processing the data therein in the received plurality of data files by aggregating those of the received data files having a common predetermined expiry time to create a plurality of aggregated compressed data files, and

a transmitter for selecting a plurality of similar relay devices and transmitting the aggregated data files to the selected relay devices over a decentralized network,
means for determining a predetermined expiry time for each aggregated compressed data file, the predetermined expiry time for said each aggregated compressed data file being equal to the common predetermined expiry time of the received plurality of data files included in that aggregated compressed data file, and selecting for transmission only those aggregated data files that have not exceeded their expiry time;

wherein the relay device has a configuration to handle the data in the form of Bloom filters.

11. (Previously Presented) Relay device according to claim 10, wherein the aggregation processor is arranged to aggregate data files having the same expiry time aggregated into a single data file for further transmission.

12. (Previously Presented) Relay device according to claim 11 having means for disseminating a plurality of such aggregate data files having different expiry times

13. (Previously Presented) Relay device according to claim 10, wherein the transmitter operates according to an epidemic dissemination process.

14. (Previously Presented) Relay device according to claim 10, comprising data storage means for storing each data file received, and processing means for comparing each stored data file with those subsequently received, and wherein the transmission means is arranged to only transmit those received data files that are not duplicated in the data storage means.

15. (Currently Amended) Relay device according to claim 10, further having means to receive further data from data generation means, and means to compress the data for transmission in an aggregated data file.

16. (Previously Presented) Relay device according to claim 10, having analysis means for analysing incoming aggregate data files to capture data contained therein.

17. (Currently Amended) A decentralised communications network in which a plurality of servers collectively maintain a database that records event reports, the plurality of servers forming an overlay network and intercommunicating using a common messaging strategy based on a publisher forwarding scheme running over the overlay network, the servers having means to aggregate compressed data messages having a common predetermined expiry time and being received from one or more other servers to create one or more compressed Bloom filter aggregate data files, and to broadcast the compressed aggregate data file to one or more of the other servers, at least one of the servers having means to generate data files in response to specific events, and means to aggregate the data files so generated with the data files received from the other servers,

the servers have means to modify the aggregate data files they receive before broadcasting them, wherein each individual aggregate Bloom filter data file has a predetermined expiry time which is equal to the common predetermined expiry time of the aggregate compressed data messages included in that Bloom filter data file, the servers have means for forwarding only the Bloom filter data files that have not exceeded their predetermined expiry times, using an epidemic dissemination process.

18. - 20. (Cancelled)

21. (Previously Presented) A network according to claim 17, wherein individual servers have means for deleting from the data that is to be forwarded any data that has been previously received and forwarded by the same device.

22. (Previously Presented) A network according to claim 17, wherein individual servers have means for extracting data required by a processing device associated with the server.

23. (Previously Presented) The method according to claim 3, wherein the data that is received at the relay device from different sources at a same time frame is aggregated by the Bloom filter process so that in each said time frame only a single Bloom filter data file is transmitted by the relay device.

24. (Previously Presented) The relay device according to claim 10, wherein the data that is received by the receiver of the relay device from different sources at a same time frame is

aggregated by the Bloom filters so that in each said time frame only a single Bloom filter data file is transmitted by the transmitter of the relay device.

25. (Previously Presented) The network according to claim 17, wherein the data files that are received at at least one of the servers from different sources at a same time frame are aggregated by a Bloom filter process so that in each said time frame only a single Bloom filter data file is transmitted by the at least one of the servers.